APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-482/85-10 Construction Permit: CPPR-147

Docket: 50-482 Category: B1

Licensee: Kansas Gas and Electric Company (KG&E)
P. O. Box 208
Wichita, Kansas 67201

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: Wolf Creek Site, Coffey County, Burlington, Kansas

Inspection Conducted: January 15-25, 1985

Inspectors: R D Taylor
R. G. Taylor, Team Leader — Date 3/1/85

L. E. Ellershaw
L. E. Ellershaw, Reactor Inspector — Date 3/1/85

G S Madsen for
R. P. Mullikin, Reactor Inspector — Date 3.1.85

G S Madsen for
J. E. Bess, Reactor Inspector — Date 3.1.85

for R D Taylor
L. D. Gilbert, Reactor Inspector — Date 3/1/85

Also participating was M. W. Peranich, Chief, Construction Programs Section, IE:DQASIP

Approved: L. E. Martin, Chief, Wolf Creek Task Force — Date 3/1/85

Inspection Summary

Inspection Conducted January 15-25, 1985 (Report 50-482/85-10)

Areas Inspected: Routine, announced followup on previous inspection findings; followup of IE Bulletins; followup on licensee reported construction deficiencies; and followup on selected licensee construction self assessment team findings. In addition, an independent inspection related to piping system cleanliness was conducted. The inspection involved 186 inspector-hours onsite by six NRC inspectors.

Results: Within the five areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Kansas Gas and Electric

*R. M. Grant, Director-Quality
*W. J. Rudolph II, Manager, Quality Assurance (QA), WCGS
*C. E. Parry, Supervisor-Quality Systems Engineering
*W. M. Lindsay, Supervisor-Quality Systems
*R. L. Stright, Licensing
*J. Fletcher, Supervisor-Construction Quality Control (QC)
C. A. Snyder, Manager Quality First
R. Walters, Supervisor Quality First
*H. K. Chernoff, Licensing
*P. Dyson, Field Engineering Supervisor

Bechtel Power Corporation

C. M. Herbst, Assistant Project Engineer

Other licensee, Bechtel Power Corporation, and Daniel Construction, Inc. (DIC), personnel were interviewed during the course of the inspection.

*Denotes those persons who attended the exit meeting on January 25, 1985.

2. Followup on Previous Inspection Findings

(Open) Violation (482/8422-01) The inspection program for safety-related structural steel welds was not adequately executed nor were adequate records kept to document the quality of the welds.

This item remains open pending completion of continuing review and verification of activities.

(Closed) Violation (482/8452-01) This violation involved the separation criteria of nonsafety conduits to safety cable trays and cables exiting trays. The criteria used during construction differed from that committed to in the FSAR. The licensee performed an evaluation to justify their construction practices, and submitted a proposed FSAR change to the NRC's Office of Nuclear Reactor Regulation (NRR) on January 14, 1985. This change was approved by NRR on February 14, 1985. This violation is considered closed.

(Closed) Unresolved Item No. 1 (482/8451) Failure to secure cable at raceway rollouts and allow for the minimum bend radius of cables transferring from tray to conduit. The cables not being secured at raceway rollouts was found by the licensee to be generic. Nonconformance reports (NCRs) were generated to identify and rework discrepancies discovered during a 100 percent reinspection of the power block. KG&E Construction Procedure KP-550 will be revised to require KG&E quality

engineering to verify that inspection criteria, such as cable securing, has been included prior to the initiation of work. The examples of minimum bend radius violations identified by the NRC were corrected and documented in NCR 1SN21165E. DIC Cost Tracking Form EU-318 was initiated to allow for the inspection of areas where the bend radius could possibly be violated during construction activities. Cable radius guards were installed in these areas. However, actual bend radius violations discovered were corrected using the NCR. This item is considered closed.

(Closed) Unresolved Item No. 2A (482/8451) No consideration in procedures for effect of spalling on anchor bolt embedment: The licensee's A/E has responded to this item by stating:

a. The failure mode for expansion type anchor bolts is wedge slippage in the drilled in hole or shear cone failure of the concrete, neither of which is effected by minor surface spalling of the concrete, typical of the examples identified.

b. The bolts are only loaded in design to ¼ of the tested load capability.

The NRC inspectors agree with the above statement subject to the following reservation:

There are no signs of concrete distress after the bolt is torqued to the preload requirement. Such distress would be evidenced by cracking and additional spalling.

The NRC inspectors' reservation was adequately addressed by DIC Procedure QCP-IV-106, Appendix A, which requires the QC inspector to examine the concrete surrounding the torqued bolt for integrity or lack of distress indications. This item is considered closed.

(Closed) Unresolved Item No. 2B (482/8415) Lack of procedural incorporation of RCI #1-1357-E. The subject RCI from DIC to the A/E essentially requested the A/E's concurrence that references in DIC Procedure QCP-X-302 to A/E design drawings was sufficient criteria to preclude unacceptable spreading of Unistrut side walls. The engineer agreed and thus, the procedure required no supplemental criteria to achieve a satisfactory installation. In essence, the noted sidewall bowing is acceptable and is the result of installation of proper Unistrut hardware and proper tightening of attaching bolting. This item is considered closed.

(Closed) Unresolved Item No. 2C (482/8451) Generic Resolution F-014 (corrected to E-014) does not require documenting acceptance criteria from drawing and specifications on QC checklists: The licensee provided information indicating that the generic resolution forms are issued by DIC quality supervision and approved by KG&E QA for use by the Combined Review Group (CRG) when reviewing QC inspection documentation. In general, the Generic Resolution Documents authorize CRG to add missing information to the inspection reports and may also correct existing information by

supplementation if the CRG person can determine by paperwork accompanying the inspection report that the information was necessary and germane. In the apparent instance found by the Special Construction Verification Inspection (SCVI), the inspection report referenced an incorrect vendor drawing as being used for inspection. Based on an interview with the CRG person who reviewed and annotated the inspection report, different drawings were applicable to batteries NK-14 and NK-12. The correct drawing was implied but not annotated by adding E-014 in proper space as an alert. The reviewer stated that he had compared the two drawings and found them to be the same; i.e., the torque value for tightening the intercell cable connections, therefore, the error did not invalidate the inspection acceptance. The rework order on which the inspection was done covered both batteries NK-12 and NK-14. The NRC inspectors reviewed several dozen generic resolution documents issued to cover similar situations that have arisen in each of the four inspection technical discipline areas. In general, most of the forms were more explanatory of purpose and imposed more restrictions on the CRG personnel than did E-014. During an interview the CRG supervisor stated that the generic resolutions had been developed to allow CRG to provide a better historical record of inspection activities that occurred in most instances two to five years ago by inspectors no longer site employed and which in many instances could not be repeated at this time. The CRG supervisor stated that generic resolution documents do not relieve the field QC inspectors of fulfilling the requirements of applicable quality control procedures (QCPs) and that when current reports are reviewed and found inadequate, the inspection report is returned to the inspector for proper completion.
The NRC inspectors had no further questions and this item is considered closed.

(Closed) Unresolved Item No. 3 (482/8451) Evaluation of the acceptability and generic implications of vendor termination lug bending. The subject of vendor terminal lugs being bent up to 90° was initially addressed by KG&E QA in March 1980 on KG&E Surveillance Report 4/80-01. The terminal lug vendor performed formal testing of a sample of lugs and found the 90° bend to not be detrimental. The allowance for lug bending was incorporated into the Bechtel approved vendor work instructions for crimping (Drawing 10466-E-093-0099-01) in November 1983. This item is considered closed.

(Closed) Unresolved Item No. 4 (482/8451) Acceptability and generic implications of the actual torque values of the brace pad bolt assemblies and the quality of the rack plug welds for battery rack NK-12.
NCR 1SN212O2E was initiated and it was determined that full lockwasher engagement could not be achieved due to the curvature of the NK-12 brace pads. The brace pads that were curved were either straightened or replaced, and the bolts torqued per requirements. Work Request 1337-85 was issued to identify and correct similar problems on the remaining battery racks. The plug welds for battery racks NK-11, NK-12, NK-13, and NK-14 were reinspected by a DIC certified AWS Level II quality inspector and found to be acceptable. This item is considered closed.

(Closed) Unresolved Item No. 5 (482/8451) The reinspection of welds in accordance with the criteria referenced on Bechtel purchase orders, not used in the Construction self-assessment (CSA), is required to provide a basis for implementation of corrective action. This should be done following the removal of paint from the welds or following an engineering evaluation of the acceptability of the method of inspection of vendor welds through paint. The NRC inspectors reviewed the documentation for corrective action taken on each of the CSA concerns on welding of piping and components. This review confirmed that all safety-related welds inspected through paint were reworked by grinding/blending operations and reinspected with the paint removed. The reinspections of the CSA concerns were performed in accordance with DIC Procedure QCP-VII-200, which contains the weld acceptance criteria required by the Bechtel purchase order for piping subassemblies. This item is considered closed.

(Closed) Unresolved Item No. 6 (482/8451) Need for contractual delegation for implementation of corrective actions. This item apparently resulted from discussions between the NRC SCVI team and DIC personnel in which the DIC personnel disclaimed any company or personal responsibility for welds made by vendors when DIC is not the purchaser. The licensee has responded that each of his primary purchasing agents for vendor equipment (Bechtel and Westinghouse) are responsible for their equipment and further, that DIC can be directed via nonconformance reports to document any adverse finding from other client agents and to effect corrective actions directed by these agents. The NRC inspectors reviewed DIC NCR 1SN21241PW, related to CSA concern 68 which documented equipment purchased by Bechtel from a vendor and accepted by Bechtel, was found to have potentially defective welds. Bechtel, as the A/E, provided direction to DIC to investigate and correct the welds (by grinding) which was done. Since the component was ASME certified, the authorized nuclear inspector also concurred in the disposition and resulting action. The NRC inspectors find that no additional contract provisions are necessary since the licensee's contractual provisions and implementing procedures are adequate as demonstrated by the above referenced NCR. It is clear that the licensee has impressed DIC with their responsibilities to conform to licensee direction, probably after the departure of the SCVI. This item is considered closed.

(Closed) Unresolved Item No. 7 (482/8451) Radiographic film packets for 33 piping welds supplied by Dravo were found to be marked with a material thickness different from that shown on the reader sheet. The licensee provided the following clarification for the two different thicknesses that were recorded. The thickness recorded on the film packet is the nominal pipe wall thickness. The thickness recorded on the reader sheet is the material thickness. Dravo defines the material thickness as the thickness of the weld reinforcement added to the nominal wall thickness. This definition of material thickness is consistent with Section V of the ASME Code. The licensee also verified that the correct penetrameter size had been used for each of the 33 film packets. The NRC inspectors selectively verified the accuracy of the licensee's analysis. This item is considered closed.

(Closed) Unresolved Item No. 8 (482/8451) Level I QC inspection personnel, rather than the required Level II personnel, evaluated and accepted concrete batch plant tickets. It appears that the licensee personnel assigned to interface with the NRC SCVI team were not familiar with the earlier history of the Wolf Creek project when attempting to resolve a concern. The licensee has provided the NRC inspectors with NCR 1SN10910C, which relates directly with the SCVI team observation concerning batch plant records. NCR 1SN11639C covering essentially the same problem in other areas, was also provided. Both NCRs were initially prepared in mid-1983, and subsequently closed with all actions complete in October 1983. In summary, the NCRs document: (a) a misunderstanding of responsibilities of Level I and Level II inspectors by the involved personnel, and (b) a lack of administrative attention to issuance of formal certification documents at the point in time needed. Both NCRs document acceptable resolution of the above problems. This item is considered closed.

(Closed) Unresolved Item No. 9 (482/8451) This concern involved a nonsafety-related tubing support attached to a safety-related whip restraint. The original concern was whether the design of the whip restraint included the loading from the tubing support. Also included in this concern was whether "as-built" drawings had implemented this change. NCR 1SN5503J was written to disposition and document these concerns. This disposition was based on engineering design review of the subject whip restraint and the acceptability of the subject whip restraint and the acceptability of the subject tubing installation to meet seismic II/I design criteria. A sample inspection based on MIL-STD-105D was conducted to identify if a generic condition existed. No other tubing supports were found welded to whip restraints. The NRC inspector determined that during previous routine inspection of instrumentation, no supports welded to whip restraints had been identified. Since the disposition of NCR 1SN5503J by engineering concluded that the loading of the whip restraint would not affect the performance of the whip restraint or tubing support, and the maintenance or operability of the whip restraint or tubing support had not been affected; no drawing revision should be required to reflect the as-built inspection. This item is considered closed.

(Closed) Unresolved Item No. 10 (482/8451) Anchor bolts on accumulator tank project above design level more than installation tolerance allowed. A licensee representative provided the NRC inspectors with NCR 1SN0683C, dated in November 1978, which documents that anchor bolts other than depicted on drawing C-1C2411(Q) had been supplied by the tank vendor. The A/E stated on the NCR that a nonconformance did not exist since the vendor exercised an alternate allowed by drawing C-0020(Q) and directed that the measurements affected thereby would be judged by actual embedment rather than calculated embedment taken from elevation projection. The overall effect was that projection elevation was no longer a factor. Subsequent to the original installation of the tanks, the A/E changed the anchor design such that 18 of the 28 bolts per tank were changed to bolts extending through the floor and through added structural steel under the floor. The A/E has stated that these 18 bolts accept all design loads involved and the embedded bolts serve no design function. This item is considered closed.

(Closed) Unresolved Item No. 11 (482/8451) Traceability and missing or improperly installed cabinet-to-cabinet fasteners for motor control centers (MCC) NG01A, NG01B, NG03C, NG03D, and NG04C. A review of the applicable specifications and purchase orders by the licensee and the NRC inspectors revealed that traceability markings for the bolts were not required. The vendor certified that SAE Grade 2 bolts were all that were required and that the MCCs were seismically qualified using these bolts. In addition, NCR 1SN20682-E was issued to inspect for and install, if needed, missing or improperly installed bolts on all MCCs. This item is considered closed.

(Closed) Unresolved Item No. 12 (482/8451) This concern pertained to material traceability of battery rack NK12. Traceability of fastener assemblies could not be established due to lack of required traceability markings or because they were missing. The NRC inspector reviewed Specification No. 10466-E-050, , "Technical Specification for Batteries and Racks," to ascertain if battery rack fasteners required markings for traceability purposes. The Technical Specification did not reference traceability of fastener material. The NRC inspectors reviewed bills of material, purchase orders, and drawings of the battery racks to verify if fastener material required traceability. None of the referenced documents indicated that traceability was required. KG&E contacted the supplier of the battery racks to inquire if the battery rack fasteners were supplied with markings specifically on the bolt heads. The vendor was also questioned about the specification and grade of the bolts for the battery racks. The vendor informed KG&E that the bolts were made of carbon steel to the specification of SAE-J429. A certificate of conformance was supplied with the bolts. The vendor also stated that there were no markings on the bolt heads. The NRC inspectors noted that the battery racks are shipped from the manufacturer disassembled and assembled at the plant. The bolts and fasteners were shipped in separate bundles. It has been established that all pertinent documentation and test data had been received by the site. Therefore, it is accepted that since the battery racks were tested and approved, the bolting material used during this testing should be accepted as part of the component being tested and accepted as is. This item is considered closed.

(Closed) Unresolved Item No. 13 (482/8451) High strength steel anchor bolts for main coolant pump and steam generator supports were made of indeterminate material. The particular bolts involved are identified on design drawing C-0C2321 as detail TR-1. The bolts for the pumps and generators are identical in size, length, and material. The licensee provided the NRC inspectors with Metallurgical Laboratory Report No. 2118, dated October 27, 1977, describing the test results on 112 TR-1s, which was prepared and certified by the vendor, Southern Bolt and Fastener Corporation. A QC inspection checklist dated November 9, 1977, for equipment TR-1 documented inspection of identification and marking in accordance with the purchase order. The bolts were certified by Southern Bolt to the requirements of ASTM A-540-70 which in turn requires that components of the size involved be die-stamped with the mill heat number on one (unidentified) surface. Since the only flat surface available for

easy die-stamping is the bolt ends, it is assumed that the stamp was applied on one end or the other, apparently indiscriminately. The bolts are threaded with considerably more thread on the top end as installed than the bottom (embedded) end. When the die-stamp was applied on the short threaded end, the stamp became nonvisible after concrete placement which took place in June 1978. To provide further assurance that the proper bolts were installed, the licensee provided the NRC inspector with anchor bolt material lists pertaining to drawing C-0C2321. The list indicates that the TR-1 bolts are the largest in diameter and the longest on the list and because of their size (3" dia x 4'1" long) would not be easily interchanged with lesser quality bolts. The NRC inspector had no further questions and this item is considered closed.

(Closed) Unresolved Item No. 14 (482/8451) Installation of nuts on anchor bolts not in accordance with design documents. As noted in paragraph VII.2.b of NRC Inspection Report 50-482/84-51, the deviation consisted of locknuts being installed which were not required by design drawings. The licensee response states that all bolts requiring locknuts have the nuts present and of the correct type. Those bolts not requiring locknuts had either a heavy nut or a standard nut installed as a locknut. The engineer has stated in response to Request for Clarification No. 1-0598-C that addition of jam (lock) nuts is acceptable since it does not change the design intent. The NRC inspectors had no further concern relative to this item and this item is considered closed.

(Closed) Unresolved Item No. 15 (482/8451) Acceptable resolution to licensee audit TE:57061-K111 is needed. The licensee provided the NRC inspector with documentation stating that referenced audit file has been closed. The NRC inspectors reviewed each of the 8 audit findings and found that the resolutions would effect appropriate corrective action for the finding. The NRC inspectors had no further concerns in this matter and this item is considered closed.

(Closed) Unresolved Item No. 16 (482/8451) (a) Resolution of audit count differences between KG&E and CSA and (b) CSA evaluation of not performing audit TE:57061-K111 on schedule. The CSA data on the count of audits not performed fails to show any significant concern with this problem. The licensee response to the (a) portion of the unresolved item states that the difference was due to the method of counting scheduled audits within the same schedule document. In regard to the consequences of not accomplishing the above referenced audit as scheduled, the CSA data indicates that no such evaluation was made by CSA since CSA closed out their concerns with item 159 on December 3, 1984, and well before NRC Inspection Report 50-482/84-51 was issued. The licensee has stated that effects were minimal. As noted in the above discussion of unresolved item No. 15, the NRC inspectors have reviewed the 8 audit findings and their corrective actions, primarily remedial in nature, which have reduced any apparent impact on the delay. The NRC inspectors have no further questions and this item is considered closed.

(Closed) Unresolved Item No. 17 (482/8451) Failure of termination lugs during tightening. The vendor supplied brass lug of the "C" phase 13.8KV

power cable for RCP "D" was found to be broken. SFR 1-BB-147 was issued to replace the brass lugs on all RCPs with compression lugs generally used on site. The brass lugs were found to only exist on RCP terminations. These cables are all nonsafety circuits. The licensee evaluated this defect and determined it not to be reportable to the NRC. This item is considered closed.

(Closed) Unresolved Item No. 18 (482/8451) Corrective Action Report (CAR) 18 and CSA Concern 160 action plan should be revised to include additional clarification of intended corrective action requirements involving SFRs for resolution of "design errors" or not having "identifiable or retrievable" documentation. CAR 18 was not revised as recommended by this unresolved item. Licensee QA has, however, accomplished the intent of the recommendation by a series of audits and surveillances that have established that design errors are properly resolved and that supporting documentation is identifiable and retrievable. The licensee has revised the controlling procedures to simplify the documentation evolutions of problems identified in startup activities and to more clearly define the roles of the interfacing groups involved. The NRC inspectors had no further questions. This item is considered closed.

(Closed) Unresolved Item No. 19 (482/8451) Revision of Procedure ADM 14-416 is required to prevent recurrence of deficiencies in use of Notice of Discrepant Condition (NDCs). The referenced procedure has been revised to specifically address the lack of document tracking problems (primary deficiency) and KG&E QA has been inserted in the NDC review cycle to assure continued adherence to procedural requirements. The NRC inspector had no further questions on this matter and this item is considered closed.

(Closed) Unresolved Item No. 20 (482/8451) Licensee should audit a sample of NCRs issued after closeout of NDCs for compliance to procedure AP-VI-02 provisions relating to "N-stamp" of ASME systems/components. The licensee has conducted the recommended audit of NCRs relating to N-stamped systems/components. NRC review indicated that many of the NCRs were based on startup NDCs. The resulting NCRs properly referenced the related NDCs. The NRC inspectors had no further questions. This item is considered closed.

(Closed) Unresolved Item No. 21 (482/8451) The corrective action program should assure identification and review for reportability (10 CFR 50.55(e)) regarding SFR and NCRs checked "potentially reportable" and other deficiencies that may have gone undetected due to a breakdown in the SFR QA program. Information provided by the licensee indicated that action to address this item had been initiated by a concern expressed to the licensee's Quality First organization on September 28, 1984. The Quality First Action request, in effect, directed the startup organization to review all SFRs issued prior to June 1984 for reportability.

Licensee QA also initiated a programmatic audit in mid-September 1984, apparently to address CSA concern 21 which noted reportability problems in the startup organization relative to SFRs.

Startup did perform the review requested by Quality First and procedure clarifications plus training was accomplished in accordance with the audit recommendations.

The result of all of the above was the filing of three 10 CFR 50.55(e) reports with the NRC on or about October 22, 1984.

It appears that the licensee was not adequately prepared to address the SCVI team's concern fully by the team's departure on November 3, 1984, since Quality First had not accepted the startup actions and did not do so until November 6, 1984.

Based upon extensive documentation presented including a review of selected SFRs the NRC inspectors had no further questions. This item is considered closed.

3. Followup of IE Bulletins

IE 79-14, "Seismic Analyses for As-Built Safety-Related Systems." Based upon inspections of selected as-built safety-related piping systems and examination of the flow of as-built data within the appropriate engineering agencies utilized by the licensee as documented in NRC Inspection Report 50-482/84-23, the NRC inspectors deem that the licensee has fulfilled the requirements of the subject bulletin.

4. Closeout of Construction Deficiency Reports

a. (Closed) TE53564-K118 Field Procurement: This item involved a finding that DIC field initiated purchase orders for installable items did not include all requirements applicable to the item(s) as stipulated by the applicable A/E (Bechtel) specification. DIC Corrective Action Report 1-G-0036 was initiated to cause a review of selected DIC purchase orders and was subsequently extended to cover all such orders. Bechtel participated in the review as well. Approximately 50 NCRs were issued to effect remedial corrective action where purchase orders were found to be inconsistent with specifications. To effect corrective action to prevent repetition , Procedure AP-VII-02, "Requisitioning of Daniel Procured Materials, Equipment, and Services," was revised to expand on detail requirements for processing such orders, and training in the revised procedure was given personnel involved in ordering such items. The actions taken appear appropriate to effect correction of this matter and this report is considered closed.

5. Evaluation of Licensee's Construction Self-Assessment Program-Phase II

The NRC inspectors examined, on a selective basis, the actions by the licensee and his contractors in response to concerns expressed by the CSA team and the subsequent followup by CSA of these actions. The selection of concerns was directed to those considered to be more important items by both the NRCs SCVI team (see NRC Inspection Report 50-482/84-51) and by members of the Region IV task force. The following is a listing of those

CSA concerns examined and constitutes approximately 50 percent of the total number of concerns.

Concern No.	Concern No.	Concern No.	Concern No.
2	29	76	122
3	30	77	127
4	31	78	129
5	32	79	130
6	35	81	131
7	36	84	132
8	37	86	135
9	38	93	136
10	39	94	140
11	40	98	141
12	46	100	142
18	47	101	143
21	49	102	144
22	51	103	146
23	52	104	147
24	59	107	148
25	60	108	149
26	67	111	153
27	68	112	154
28	69	113	155

Each of the examined concerns were found to have been closed to the satisfaction of the CSA team and that closures were commensurate with the original concern.

No violations or deviations were identified in this area of the inspection.

6. Pipe System Cleanliness (Internal)

During a review of KG&E's NCRs and CARs, the NRC inspectors noted apparent recurrences of deficient conditions with respect to pipe cleanliness requirements. It was determined that these deficient conditions had been identified in numerous surveillance reports, NCRs, and CARs since as early as 1979, and on two occasions (June and November 1980), stop work orders were issued due to the apparent ineffectiveness of various corrective actions.

CAR No. 7 was initiated on November 20, 1980, because "specification requirements for piping cleanliness are not being met. Corrective Action Report No. 6 did not result in actions which maintained the required levels of piping cleanliness." The biggest concerns related to foreign object contamination; i.e., nuts, bolts, Q-tips, chips, etc., and the use of Dissolvo welding tape, a high halogen content tape used for holding in place welding purge dams on austenitic stainless steel piping. The foreign object contamination could be removed during the normal pipe

system flushes; however, it was determined that the tape or its residue could not be removed in this fashion. Prior to July 1, 1980, Dissolvo tape was used to form purge dams in stainless steel piping without documentation verifying its removal. Between July 1, 1980, and March 18, 1981, (when a SNUPPS directive was issued to cease the use of Dissolvo welding tape), the use of the tape and its removal was documented.

A program was initiated to identify all stainless steel piping systems in which the tape may have been used. In addition to reviewing documentation showing where Dissolvo tape had been used, a visual inspection was undertaken for all other stainless steel piping in which the tape may have been used. KG&E, in correspondence to DIC dated April 30 and July 13, 1982, directed that where the presence of tape is identified, special cleaning including hydrolase cleaning would be performed. The correspondence further directed that a minimum hydrolase pressure of 5000 psi be used and that a pipe cleanliness monitor and Level II QC inspector coordinate, witness, and document the inspection and cleaning.

This inspection and cleaning activity, in conjunction with generic flushes (removal of construction contamination from the systems by velocity flushing) and proof flushes (verification of both chemical and particulate cleanliness) became the basis for closing CAR No. 7 on November 27, 1984.

In order to assess the validity of the basis for closing out CAR No. 7, the NRC inspectors reviewed water quality data sheets showing results of the chemical analyses performed during proof flushes. The data sheets from 81 sections of 8 piping systems showed that the halide content (chlorides and fluorides) was much less than the maximum permissible amount and the overall water chemistry is acceptable. Therefore, the basis for closing CAR No. 7 appears to be proper.

7. Exit Interview

An exit interview was held on January 25, 1985, with personnel noted in paragraph 1 to discuss the scope of the inspection and the findings therefrom.